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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/710,388	09/16/96	SINGHAL	

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EXAMINER
TWEEL JR, J

ART UNIT	PAPER NUMBER
2736	

DATE MAILED: 01/11/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/719,388

Applicant(s)

SINGHAL

Examiner

JOHN TWEEL

Group Art Unit

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—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 10/28/98.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 23-38 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 29-36 is/are allowed.
- ☒ Claim(s) 23-28 + 37+38 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ ☐ Interview Summary, PTO-413
- ☒ Notice of References Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

Office Action Summary

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1. This Office action is in response to the amendment filed 10/28/98. Claims 24-27, 29, 33, 34, and 36 have been amended. Claims 37 and 38 have been added.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by **Paley** [U.S. 5,296,871].

The remote control device adapted for use by a human to control and select from a screen taught by **Paley** includes the following claimed subject matter, as noted, 1) the claimed body adapted to be held by the human hand is met by the mouse (No. 10) with hand-held housing (No. 12) adapted to be held by the human hand, 2) the claimed multiple function thumb switch positioned on the top side of the body is met by the thumb push button (No. 18) mounted on the hand-held portion of the housing, adapted for activation by a human thumb as seen in Figure 1, 3) the claimed finger switch positioned on the bottom side of the body is met by the index finger

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push button (No. 20) disposed on the opposite side for activation of the finger, 4) the claimed electronic means adapted to generate a signal is met by the microswitches (Nos. 40, 42, and 44) that generates signals upon activation of the switches, and 5) the claimed transmitting means is met by the cable (No. 26) for transmitting the signal from the electronic means.

5. Claims 24, 25, 27, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Paley** in view of **Miyakawa** [U.S. 4,931,781].

For claim 24, the remote control device taught by **Paley** includes the claimed subject matter as discussed in the rejection of claim 23 above. However, nowhere in the reference is there any mention of an annular switch including four individual quadrant switches. All that is present is a central switch operated by the user's thumb.

The cursor movement control key switch taught by **Miyakawa** controls the movement of a cursor on a display screen. As seen in Figure 20A-20C, an annular switching device (No. 306) slides between four quadrant contacts (Nos. 308 and 310) to produce cursor control signals to the CPU (No. 9) which examines the terminals of said contacts. Commercially available switches may be used in place of the pressure balls (Nos. 307 and 309) and said spring contacts. Natural movement of the finger of an operator to move a single key allows generation of electrical signals representing more information. The obvious advantage of this configuration is the improved operability when the cursor must be moved in a plurality of directions to reach a desired position.

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Since both **Paley** and **Miyakawa** pertain to cursor control apparatus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an annular switch using four quadrant switches similar to that of Miyakawa for the purpose of increasing the operability and the versatility of the switching apparatus. The two separate switches presented by the references operate independently from one another. Also, the compound switch structure enables many functions to be enacted with a single switch.

For claim 25, the claimed thumb base plate is met by the retaining plate that holds the plurality of spaced apart switch contacts (Nos. 308 and 310). The claimed thumb switch plate is met by said annular switching device (No. 306) of **Miyakawa** which is adapted to move relative to the thumb base plate, wherein the switch plate selectively contacts one of the contacts upon movement of said switch plate. **Paley** teaches electrical contacts which are fixed relative to the body.

For claim 27, the CPU (No. 9) of **Miyakawa** includes logic converting means that respond to the embodiment shown in Figures 9 and 11A-D wherein the distance and speed of the cursor varies according to the degree of finger pressure on the quadrant switch and duration of contact.

For claim 37, the **Paley** reference presents a center switch. The **Miyakawa** reference presents an annular switch. The two switches operate independently from one another.

For claim 38, the claimed thumb base plate is met by the retaining plate that holds the plurality of spaced apart switch contacts (Nos. 308 and 310). The claimed thumb switch plate is

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met by said annular switching device (No. 306) of **Miyakawa** which is adapted to move relative to the thumb base plate, wherein the switch plate selectively contacts one of the contacts upon movement of said switch plate. **Paley** teaches electrical contacts which are fixed relative to the body.

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Paley** in view of **Ebina et al** [U.S. 4,812,829].

The device of **Paley** includes the claimed subject matter as disclosed in the rejection of claim 23 above. However, there exists no slidable finger switch plate which is adapted to be moved by a human finger.

The three-dimensional display device and method for pointing displayed three-dimensional image taught by **Ebina et al** comprises a display, input, and controller to manipulate a three-dimensional vector cursor in response to the pointing signal from the input. As seen in Figure 1, the input device (No. 105) includes a joystick (No. 108) as well as a slidable volume (No. 109) for controlling the velocity of the vector cursor. The velocity vector of the cursor is varied by manipulation of the joystick and slide volume to change the direction and speed, respectively. The object of the present invention is to provide a three-dimensional image on a two-dimensional plane and which can point to the three-dimensional image easily and precisely.

Since both **Paley** and **Ebina et al** pertain to cursor manipulation devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a

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slidable finger switch including the necessary contacts for the purpose of enabling easy and precise manipulation of the cursor in a flexible, three-dimensional environment. Paley teaches electrical contacts fixed relative to the body.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Paley** in view of **Evans et al** [U.S. 5,412,377].

The device taught by **Paley** includes the claimed subject matter as discussed in the rejection of claim 23 above. However, the reference does not include an electronic display window secured to the body which generates status information on said display.

The universal remote control program scheduling system taught by **Evans et al** includes an apparatus for scheduling operating sessions to be performed by a group of remotely controlled devices. An important feature of this invention is the display (No. 12) which may be a LCD display or other such system. This display is used for multiple reasons, such as a clock, the name of the key or function to be operated, error messages, and status information. This display device enables the user to be continually informed of status information to reduce the number of programming errors during operation of the device.

Since both **Paley** and **Evans et al** pertain to remote control manipulation, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an electronic display window similar to that found in Evans for the purpose of continually notifying

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the user of system status and, as a result, minimizing the errors that could arise during apparatus manipulation and programming.

8. Claims 29-36 are allowed.

9. The following is an examiner's statement of reasons for indicating allowable subject matter:

In light of the comments accompanying the latest amendment, it has been determined that the applied prior art, specifically **Jarlance-Huang** [U.S. 5,668,574] and **Bertram** [U.S. 5,602,597], was in fact filed after the priority date of the immediate application. This obviates the applied prior art over the claims, rendering claims 29-36 allowable.

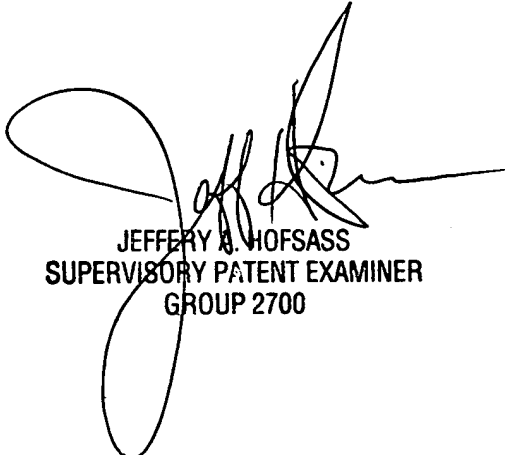
10. Any inquiry concerning this communication should be directed to Examiner John Tweel at telephone number (703) 308 7826. The examiner can normally be reached on Monday-Thursday, 8:30a-5:00p. The examiner can also be reached on alternate Fridays.

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If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on (703) 305 4717. The fax phone number for this group is (703) 305 3988.

John Tweel

January 4, 1999



JEFFERY A. HOFSSASS
SUPERVISORY PATENT EXAMINER
GROUP 2700